Claims

1. Method for carrying out optical pick up for the purpose of representation, documentation or surveying of objects (1) using at least one electronic image converter (15) with an areal viewing field, at least one optical means (12) for imaging the object on the image converter (15) and at least one beam source (13, 14) for illuminating or transilluminating the object (1), characterised in that

a) at least two single images follow one another consecutively, and

b) the effective amount of beam energy applied for the optoelectronic conversion of the images is set differently for picking up the single images.

2. Method according to claim 1, characterised in that the intensity of the beam energy applied for the optoelectronic conversion of the images is set differently for picking up the single images.

3. Method according to claim 1 or 2, characterised in that the duration of action of the beam energy applied for the optoelectronic conversion of the images is set differently for picking up the single images.

4. Method according to one of claims 1 to 3, characterised in that at least one beam source (13, 14) is set differently with respect to the amount of beam energy it emits for picking up a single image during picking up of the single images.

5. Method according to one of claims 1 to 4, characterised in that optical means (10, 11) for influencing the effective amount of beam energy for picking up of a single image in at least one beam path (6, 7) between the at least one beam source (13, 14) and the object (1) to be determined are

set differently during picking up of the single images.

6. Method according to one of claims 1 to 3, characterised in that optical means (12) for influencing the effective amount of beam energy for picking up a single image in at least one beam path (5) between the object (1) to be determined and the at least one image converter (15) is set differently during picking up of the single images.

7. Method according to one of claims 1 to 6, characterised in that the so-called shutter means of the at least one electronic image converter (15) are controlled, with the aid of suitable means (18), such that the duration of action of the beam energy applied for the optoelectronic conversion of the images is set differently during picking up of the single images.

8. Method according to one of claims 1 to 7, characterised in that the output signals of the at least one image converter (15) are digitised in a suitable unit (16), and the digitised output signals are made available to a data processing system (17).

9. Method according to claim 8, characterised in that image data from at least two single images are stored, represented and/or combined by means of suitable algorithms, in a data processing system (17).

10. Method according to one of claims 1 to 9, characterised in that the amount of beam energy effective for optoelectronic conversion of the images is set differently, synchronously with the image refresh rate of the image converter (15).

11. Method according to one of claims 1 to 10, characterised in that the amount of beam energy effective for optoelectronic conversion of the images is set differently in a control section.

12. Method according to one of claims 1 to ~~11~~ 2, characterised in that the amount of beam energy effective for optoelectronic conversion of the images is set differently in a control loop.

13. Method according to one of claims 1 to ~~12~~ 2, characterised in that optical means (10) are provided in at least one beam path between the at least one beam source (13, 14) and the object (1) to be determined, which allow the projection of at least one pattern.

14. Method according to one of claims 1 to ~~13~~ 2, characterised in that means and/or algorithms for forming 3D data are used in the data processing unit (17).

15. Use of the method according to one of claims 1 to ~~14~~ 2 for medical diagnostics or therapy.

16. Device for a method according to one of claims 1 to ~~14~~ 2, characterised in that at least one image converter (15) is in the form of a CCD array.

17. Device for a method according to one of claims 1 to ~~14~~ 2, characterised in that at least one beam source (13, 14) is in the form of a flash body.

18. Device for a method according to one of claims 1 to ~~14~~ 2, characterised in that at least one base frame (9) or a carrier (8) rigidly connects at least two of the means (2 to 4 and 10 to 15).

19. Device according to claim 18, characterised in that at least one lens system (12) for optical imaging of the object (1) on the image converter (15) is fixed to the carrier (8).

20. Device according to claim 18, characterised in that at least one optical

deflector means (2, 3, 4) is fixed to the carrier (8).

21. Device according to one of claims 18 to 20, characterised in that the carrier (8) together with its components is releasable with respect to the other means (9 to 20) and is moreover of such a configuration that it is suitable for separate sterilisation and disinfection.

22. Use of the devices according to ~~one of claims 16 to 21~~ Claim 16 for invasive medical purposes.

23. Use of the devices according to ~~one of claims 16 to 21~~ Claim 16 for non-contact surveying of at least one tooth of a set of teeth of the human or animal body, for dentistry purposes.

24. Use of the devices according to ~~one of claims 16 to 21~~ Claim 16 for non-contact surveying of the tooth set of a set of teeth of the human or animal body, for orthodontic purposes.